NUCLEAR MEDICAL TECHNIQUES IN PREVENTIVE NEPHROLOGY (PHI/6/018) E1

New

MODEL PROJECT

CORE FINANCING

YEAR	Experts		Group Activity	Equipment	Fellowships		Scientific Visits		Group Training	Sub-Contracts	Misc. Comp.	TOTAL
	m/d	US $	US $	US $	m/d	US $	m/d	US $	US $	US $	US $	US $
1997	1/0	13,200	0	260,000	6/0	18,900	0/0	0	0	0	0	292,100
1998	1/0	13,950	0	65,000	6/0	19,800	0/0	0	0	0	0	98,750

First Year Approved: 1997

OBJECTIVES: The development goal to which this project will contribute is the cost-effective prevention and management of kidney disease on a nationwide basis, leading in the long run to reduction of the demand for renal dialysis and transplants. The objectives of the project are 1) to introduce renal scintigraphy as a means for classifying children with urinary tract infection (UTI) according to their probable risk; and 2) to conduct a pilot study on 2000-3000 children with UTI.

BACKGROUND: There is a high incidence of urinary tract abnormalities in the Phillipines. There are about 7000 new cases of end-stage kidney disease each year requiring dialysis or transplants, but treatment is possible for only 700 with the available resources. Prevention is clearly an attractive alternative. Consequently, with support from several Government Departments, the National Kidney Institute is organizing the screening of all 10.7 million primary school children in the country's 30,000 public schools using diagnostic 'dipsticks'. More than 1.4 million (26%) of the 5.4 million children already screened showed urinary tract abnormalities. About

60% of these abnormalities were associated with urinary tract infections (UTI), which can lead to permanent kidney damage. Careful diagnosis of the degree of kidney involvement or risk is the key to cost-effective management of these infections, especially those that tend to recur. The chelators dimercaptosuccinic acid (DMSA) and diethylenetriaminepentaacetic acid (DTPA) are highly effective in directing the radiographic agent Tc-99m to the kidneys for visualization with a gamma-ray camera. This method, renal scintigraphy, is the preferred diagnostic tool for determining the type and extent of kidney involvement in UTI cases. Scintigraphy is superior to non-nuclear methods such as X-ray, computed tomography, and ultrasound imaging. The Government has requested Agency support for introducing this method into its national programme of preventive nephrology.

PROJECT PLAN: Project activities will involve procurement and installation of a gamma camera; on-the-job training for practitioners in conducting renal scintigraphy with Tc-99m using DMSA and DTPA; fellowships abroad; and the formulation of a comprehensive strategy. Project outputs will include practitioners trained in preventive renal scintigraphy at the National Kidney Institute; diagnosis of kidney involvement in a study group of 23,000 children with UTI; and recommendations for a comprehensive strategy for prevention and management for the whole country.

NATIONAL COMMITMENT: In 1995 alone, the Government committed more than 50 million pesos to the national kidney programme. It supports the National Kidney Institute's nuclear medicine and clinical facilities and staff. It has conducted screening of more than half the country's school-age children, and is proceeding to test the remainder. The Government will nominate and provide released time to Fellows and on-the-job trainees. This proposal is consonant with the results of the 1995 Country Programme Framework mission.

AGENCY INPUT: The Agency will provide equipment and supplies consisting of a gamma camera, one Tc-99m generator per week, and diagnostic reagents. It will arrange for expert services, including on-the-job training for practitioners, as well as for 12 months of fellowship training abroad.

PROJECT IMPACT: The project will lead to sustained practice of renal scintigraphy at the National Kidney Institute and the eventual creation of satellite regional scintigraphy centres in a network that will reach the entire school-age population. Short term, the project will facilitate the formulation of a national prevention and management strategy that promises to be more cost-effective than the current approach, although a detailed cost-benefit analysis is not available. Long term, it could lead to a substantial reduction in the nationwide need for renal dialysis and transplants, and thus to very large savings, by drastically reducing the proportion of UTI cases that progress to end-stage kidney disease.